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ABSTRACT

The manual is intended to facilitate the development of instructional materials for handicapped children which are suitable for wide dissemination, and provides guidelines and checklists for planning, producing, and assessing instructional materials. Introductory material includes an evaluation form for the guide, definitions of terms used in the text (such as instructional product), and suggestions for searching the field to locate previously developed materials. The planning stage is seen to involve product clearance, copyrighted material releases, talent releases, and actual material design for instructional and cost effectiveness. The production of instructional materials is discussed in terms of technical considerations (such as print or audiovisual formats), preparing materials for effective use, preparing materials for delivery, and legal considerations such as copyright and royalties. Briefly considered are approaches to assessing the technical aspects and the instructional effectiveness of the materials. Appended are five sources of additional information, addresses and national and regional instructional materials centers, references on copyright aspects, and a sample of print guidelines for manuscript preparation. (DB)

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GUIDELINES FOR PREPARING MATERIALS SUITABLE FOR WIDE DISTRIBUTION

John C. Belland
Sidney Rothenberg

EC 060

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DEVELOPING INSTRUCTIONAL MATERIALS FOR THE HANDICAPPED

Guidelines for Preparing Materials Suitable for Wide Distribution

John C. Belland

Sidney Rothenberg

The National Center on
Educational Media and Materials
for the Handicapped
The Ohio State University
Columbus, Ohio

September, 1973

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PREFACE

With the distribution of this document, the National Center on Educational Media and Materials for the Handicapped (NCEMMH) hopes to facilitate the development of instructional materials which are suitable for wide dissemination, and to increase the amount of high quality materials which are available to the handicapped learner.

The ultimate test of its effectiveness, however, is whether or not you, the special educator, find it useful. To assure that future revisions of this handbook take into account your interests and concerns, would you please fill out the evaluation form on the following pages and return it to:

Developer's Guide
NCEMMH
220 West Twelfth Avenue
Columbus, Ohio 43210

DEVELOPER'S GUIDE
EVALUATION FORM

Name:_____

Organization:_____

1. Did you find the information presented in this document useful?

   _____No

   _____Yes

   In what way?_____

   _____

   _____

2. Was there any additional information that should have been included?

   _____No

   _____Yes. Please explain._____

   _____

   _____

   _____

3. Was there any information that should have been omitted?

   _____No

   _____Yes. Please explain._____

   _____

   _____

4. Was the organization and format of the material effective?

_____No

_____Yes

Please explain._____

_____

_____

_____

5. Was the text clear and easy to understand?

_____Yes

_____No. Please cite any sections of the text that need to be revised._____

_____

_____

_____

6. Were the illustrations effective?

_____Yes

_____No. Please suggest any appropriate changes._____

_____

_____

_____

_____

7. Was the supplementary material (appendices) adequate?

_____Yes

_____No. Please suggest any appropriate changes._____

_____

_____

_____

_____

Thank you for your cooperation.

INTRODUCTION

As a professional who works directly with handicapped learners, you are probably aware of the need for high quality instructional materials, particularly materials that allow learners to achieve specific instructional objectives.

At present, instructional materials are developed commercially which may be well designed for duplication and wide distribution, but may not be relevant to the needs of specific learners and specific learning situations. At the other extreme, teachers are developing materials which are clearly relevant to their students, but are not designed for duplication and, therefore, cannot be disseminated to a wider audience. For example, a television production on half-inch videotape without clearance for the use of copyrighted materials or releases from persons who may appear in the production might be suitable for local one-time showings. But the half-inch videotape format and the absence of clearances and releases might create legal and technical

problems, especially if the same materials are duplicated and distributed to teachers throughout the country.

With this manual, the National Center on Educational Media and Materials for the Handicapped (NCEMMH) provides information which will help professionals in special education to produce materials which are both relevant to specific learning situations, and are designed to meet necessary specifications for duplication and distribution.

It is important to realize that the information presented in this document does not provide a formula for creating instructional materials which are suitable for duplication and wide distribution. Nor does it propose that the use of this information will guarantee that instructional materials will be acceptable for national distribution. Instead, the intent is to focus on some basic, but often overlooked, considerations which are a part of the process of developing instructional materials -- considerations which are particularly important when materials are produced for wide dissemination -- and to make the developer more aware of these aspects and their relation to instructional materials development. These considerations also serve as guidelines for materials which are submitted to the NCEMMH for development, production, or distribution.

The manual is divided into these general areas: 1) definitions; 2) searching the field; 3) planning instructional materials; 4) producing instructional materials; and 5) assessing instructional materials. Each section is followed by a "developer's checklist," which is a list of questions on each phase of materials development. The checklist also summarizes important points which are covered in the text.

DEFINITIONS

The following are terms which are used in this text.

1. Instructional materials -- Instructional materials refer to any tangible means -- auditory, visual, or tactile -- of helping the learner to achieve specific instructional objectives.

2. Instructional materials developer -- Any individual, including a teacher, an administrator, or a learner, who is involved in the process of developing instructional materials.

3. Prototype -- The first produced version, completed and assembled, of an instructional materials design.

4. Instructional product -- A prototype, or subsequent versions of an instructional materials design.

SEARCHING THE FIELD

Before you begin to plan and produce instructional materials, it is necessary to thoroughly search the field to see if similar materials have already been developed, either for the handicapped, or for learners who are not considered handicapped. As you may have discovered, instructional materials developed for one type of handicapped child, or for children who are not considered handicapped, can sometimes be used effectively with other handicapped populations. Dollars have been needlessly spent duplicating products already produced and accepted as educationally worthwhile, but not yet widely disseminated. Funds have also been spent on needless development of instructional materials which are already in the process of being produced and have not reached the dissemination stage, or on products thus far disseminated only to teachers of a specific population of handicapped children.

In searching the field of information on existing

instructional products, you should be aware of:

1. Available sources of information

2. Types of information which will be needed

Sources of Information

There are three general sources of information about instructional products. These are: 1) information sources, such as the NICEM indexes; 2) national, regional, state or local agencies which have been established to develop, coordinate, or disseminate the production of instructional materials; and 3) personal contacts (news about effective or ineffective instructional materials often travels by word of mouth -- at least on a local or regional level).

Literature reviews and personal contacts are always possibilities for learning about the existence of instructional products. Those who want to conduct a literature search can use several different computer-based information retrieval systems, such as the one operated by the Council for Exceptional Children. Also available are standard sources. A selection of these sources are listed in Appendix A.

A more productive way to start, however, would be to contact the national, regional, state, or local agencies which have been established to provide you with this kind of information (see Appendix B). Those who have little or no knowledge of instructional materials centers or agencies might begin at the national level by contacting the National Center on Educational Media and Materials for the Handicapped (NCEMMH).

Those who know of instructional materials centers in their areas can, of course, contact those centers directly. However, in many cases, local centers or private foundations may not be aware of materials in the developmental process or

materials which have been developed in closely related areas of special education. The NCEMMH would either have this information, or be able to refer you to an agency where this information could be obtained.

Types of Information

Once you decide the person and the place to contact, what should you ask? The main question of course is whether or not materials are available which are similar to the ones which you propose to develop. It might help to include information on the following areas when the materials that you would like to develop are described:

1. The objectives of the materials
2. The types of media to be developed
3. The audience for the materials
4. The components of the total package

DEVELOPER'S CHECKLIST

Searching the Field

Now that you have an idea for a specific instructional material, you should determine if this kind of material has been produced before.

——— Have you decided what information is needed?

- objectives of the materials
- types of media to be developed
- target audience
- package components

——— Have you searched available information sources, including computer-information retrieval systems?

——— Have you contacted the NCEMMH, or regional or local agencies, such as the special education instructional materials centers?

——— Have you contacted people who may be concerned with producing instructional materials in your school or community?

8

PLANNING INSTRUCTIONAL MATERIALS

Planning for the production of instructional materials that are intended for wide distribution should involve the following considerations: 1) product clearance; 2) copyrighted material releases; and 3) talent releases. It is also during this period that materials are designed for instructional and cost effectiveness.

Product Clearance

Product clearance required by the U.S. Department of Health, Education, and Welfare and its Office of Education through their Offices of Public Affairs refers to procedures for approving the production of print and audiovisual materials developed with Federal funds. The procedures were established (O.E. Management Manual, chapters 4-04 and 4-05) to avoid duplication of effort in the area of materials development, to insure that materials will be produced according to standards for reproduction and dissemination, and to assure that materials will be developed within reasonable costs.

For audiovisual product clearance, applicants must submit a detailed plan and set of specifications for their proposed materials production, including any subcontracting procedures, to the Federal Project Officer at the Bureau of Education for the Handicapped, O.E., who will forward the information together with a standard H.E.W. Form 524, which is shown in Figure 1, to the O.E./O.P.A. Audiovisual Clearance Officer. There is also a procedure for product clearance of print materials. Further information may be obtained from the BEH Project Officer, Washington, D.C.

Copyrighted Material Releases

The procedures for obtaining permission to incorporate copyrighted materials into other materials to be published are well standardized. Permission must be granted from the holder of the copyright, whether the holder is an individual or an organization, and must be in-hand before any copyrighted materials are reproduced. If there is difficulty in locating the copyright owner, or if permission to use particular materials is refused, then other materials must be substituted. Since this process is often time consuming, it is important to begin to obtain permissions in the early planning stages, or as soon as there is any indication that the material is needed.

Specific requirements for the use of copyrighted materials are much less precise, particularly in the case of newer media. Eugene Aleinikoff[1] summarized the situation as follows:

> "The American copyright statute of today differs very little from when it was last enacted in 1909. Successive attempts at revision and updating since then consistently failed. Consequently, existing American law, whether legislative or in the courts, is limited substantially to consideration of

1 Eugene Aleinikoff, Copyright Considerations in Educational Broadcasting (Stanford, California : ERIC, 1972).

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

(See Procurement Manual Subpart 3-4.54)
REQUEST FOR AUDIOVISUAL MATERIALS

☐ MOTION PICTURE ☐ VIDEOTAPE ☐ FILMSTRIP
☐ SLIDES ☐ TAPE ☐ OTHER

2. DATE OF REQUEST

3. REQUESTING ORGANIZATION *(Agency, Bureau, Division, etc.)*

4. WORKING TITLE & LENGTH *(Mins.)*

PRIMARY AUDIENCE

SECONDARY AUDIENCE(S)

5. PURPOSE *(Attach continuation sheet if necessary)*

6. TECHNICAL SPECIFICATIONS *(Check all applicable)*

☐ 8 MM	☐ COLOR	☐ ANIMATION	☐ MUSIC
☐ 16 MM	☐ B & W	☐ LIP SYNCHRON	☐ SOUND EFFECTS
☐ 35 MM	☐ STOCK FOOTAGE	☐ NARRATION	☐ LOCATION
☐ SOUND	☐ LIVE SHOT	☐ ART WORK	☐ STUDIO

7. COST ESTIMATES

RESEARCH & WRITING $ _____
PRODUCTION $ _____
RELEASE PRINTS $ _____
DISTRIBUTION & PROMOTION $ _____
OTHER *(Specify)* $ _____
TOTAL COST ESTIMATE $ _____

8. METHOD OF REACHING AUDIENCE

☐ TELEVISION
☐ RADIO
☐ THEATRE
☐ PUBLIC PLACES
☐ CONFERENCES, ETC.
☐ CLASSROOM
☐ OTHER *(Specify)*

9. TYPE PROCUREMENT TO BE USED ☐ CALL CONTRACT ☐ COMPETITIVE BIDS ☐ SOLE SOURCE
☐ OTHER *(Specify)* _____
If Sole Source attach justification and reason for not using Competitive Bids.

10. IF CALL CONTRACT OR NEGOTIATED CONTRACT, LIST OF PRODUCERS TO BE ASKED TO SUBMIT PROPOSALS

11. PROJECT OFFICER *(Name, Bldg., Room No., Phone No.)*

12. REMARKS

13. APPROVING OFFICIALS

ORGANIZATION	SIGNATURE	TITLE	DATE	APPR'D	DISAPPR'D
BUREAU OR OFFICE					
AGENCY (OPA OR OPI)					
OS/OPA					

HEW 524 (Rev. 7-72) PREVIOUS EDITION IS OBSOLETE

Figure 1. Form 524.

> the print media. And while the 1909 Copyright Act was written in fairly general terms, application to the newer media is at best inescapably indeterminate and at worst bitterly controversial (p.1)."

As Aleinikoff points out, the copyright law is more specific when print material is concerned. But even with print, there is no clear statement on, for example, the number of lines or the number of paragraphs that are useable without written permission. Publishers sometimes provide guidelines for their authors based on their publishing experience, but these are suggestions and not legal specifications. Aleinikoff concludes that "both educators and lawyers must try to fit current educational broadcasting practices into the 1909 statutory pattern to the best possible advantage (p.9)."

The implication of Aleinikoff's remarks is that the use of copyrighted materials is frequently a matter of interpretation. While copyright owners may overlook unauthorized use of their materials in situations where materials are used for a limited educational audience, they would not be likely to accept the incorporation of copyrighted materials in print or non-print media which is widely distributed.

The producer of instructional materials intended for wide distribution should, therefore, receive written permission from the copyright owner to incorporate this material into published works. The extent of the use and the specific content of the material should be a matter which is determined by both the copyright owner and the materials developer. For a fuller explanation of the copyright laws and the interpretation of these laws, a list of suggested references is included in Appendix C. Also, a sample copyright release form is included as Figure 2.

Gentlemen(Dear Sir):

In my(our) instructional material package on .....,
scheduled for publication by ..... in
(give approximate date of publication - e.g., Spring of 1965), I(we) should
like to include the following material (from your publication), ...
..... (give full title and author; also the edition if the publication
has been revised):*

From page....., line....., beginning with the words "....."
To page....., line....., ending with the words "....."

Paraphrase(s), condensation(s), or synops(is)(es) from the following
pages .....

Halftone(s) and/or line cut(s) appearing on the following pages .....
.....

Unpublished letter(s), speech(es), or photograph(s) as follows: .....
.....

A release form is given below for your convenience. Please note that
I(we) have indicated the proposed credit line. You may sign and return
the enclosed copy of this letter.

Your consideration of this request at your earliest convenience will be
deeply appreciated.

Very truly yours,

(Signed)

I(We) grant the permission requested on the terms stated in this letter.

CREDIT LINE TO BE USED:

(Note to Author: Please type your proposed credit line here.)

Date ..... By .....
.....
.....

* Omit if the request is for the use of unpublished material.

Figure 2. Sample copyright release form.

Talent Releases

In the production of instructional materials, students, teachers, school personnel, and parents are often used as actors or actresses, or - to use the more general term - as talent. It is important that anyone who appears in a photographic image -- whether still, motion picture, or television -- or is heard on a sound track, be asked to formally release the use of that photograph or audio recording for instructional purposes. This applies to images which will be reproduced for others to use or for use in its original form in other than a very narrowly prescribed situation. Samples of forms for this sort of release are included as Figure 3 and 4.

A release form is nothing more than a formal agreement between the parent, student, or teacher and the producer of the educational media product. It serves primarily to create an understanding between the producer and the participant regarding the nature of the product. No one can relinquish his legal rights by simple signing a release form. Consequently, these forms should be less legal and more personal in nature. Also, the signer of a talent release form should at all times have the right to relinquish or withdraw that form during the development and production stages. It is also wise to give all participants the right to review the final product before it is released, with the option of withdrawing their signed permission slip even at that late date. The reason for this is not the legal action that might be taken, but the importance of maintaining good relations with the public.

It is not whether you will win or lose the court case if it ever came to trial, but that the adverse publicity stimulated by one phone call from one irate parent to one newspaper could destroy some of the good feelings that have been established about your agency in your state or community.

NAME OF UNIVERSITY
OR
PRODUCTION GROUP + ADDRESS

Date _____

Dear Sirs:

In consideration of my appearing on one or more of the programs which you are preparing for _____
I hereby authorize you to use and to record, on film, tape or otherwise,
(NOTE 1) my name, likeness and performance on such programs and to authorize others to use such recordings of films for educational audio-visual purposes and for general educational purposes in perpetuity. You may also use my name, likeness and biography for publicizing and promoting such broadcasts.

I also warrant and represent that all material furnished and used by me
(NOTE 2) on any of such programs is my own original material or material which I have full authority to use for such purposes.

SIGNED _____

ADDRESS _____

DATE _____

WITNESS _____

COPY GIVEN TO SIGNER _____

FEE PAID $_____

NOTE 1: One may want to determine in developing your own release form whether the sole use of the material is for educational purposes for general distribution. You may also want to consider whether this production would be available for a limited amount of time or for perpetuity. Also the question of the use of names in promoting the program should be answered in detail on the release form.

NOTE 2: You may want to indicate that a price was paid for the productions and what that price was. You may also want to make attached xerox copies or other reproductions to be attached to the form. You should also indicate a copy of the form to the person who is signing it with a space provided for him to indicate that he has received a copy thereof.

Figure 3. Sample talent release form A.

PHOTOGRAPHIC & SOUND RELEASE AND WAIVER

(1) I, the undersigned, hereby grant the _____ permission to make still and motion pictures and sound recordings, separately or in combination, of me, and I also give the Department permission to put the finished silent or sound pictures, still pictures, and/or sound recordings to any uses they may deem proper. (This should be clarified for each production.)

(2) (Here state the intended objective of the production and its use.)

(3) Further, I so hereby relinquish and give to the Department all right, title and interest in and to, and income from, the finished sound or silent motion pictures, still pictures, and/or sound recordings, negatives, prints, reproductions, and copies of the originals, negatives, recordings, duplicates and prints, and further grant the Department the right to give, sell, transfer, and exhibit the same to any individual, business firm, publication, TV station or network, or governmental agency, or to any of their assignees, without the payment or other consideration to me.

(4) My agreement to perform under camera, lighting, and stage conditions is voluntary and I do hereby waive all personal claims, causes of action, or damages against the Department and the employees thereof, arising from or growing out of my said performance or appearance.

(5) The use for which this production is being developed has been explained to me to my satisfaction and I fully concur with the educational purposes and value of my participating in this production. I further understand that I will be given the right of final approval for use of the production once it is in the final stage and will be kept informed on the progress of the production. All questions that I have concerning the production have been answered to my best understanding and I have received a copy of this form. Please initial this section _____.

SIGNED _____

ADDRESS _____

DATE _____

PARENT OR GUARDIAN _____

WITNESS _____

Project #_____

Location:_____

_____
For the Department of

Figure 4. Sample talent release form B.

Therefore, it is imperative that you work very closely with the people who have signed release forms and are participating in your productions. As long as parents are kept involved and informed about the nature and the use of the production, they rarely object to having their children or themselves used as subjects.

The following points should be considered in the development of your talent release form for instructional materials productions:

1. Copies of the forms should always be given to the parents.

2. If the natural parent of the child is not his guardian, you should ascertain who is the legal guardian for the child.

3. A separate release form for each unit in a series of materials is always desirable. For example, each television program in a series would require its own releases.

4. It is not a good idea to keep a blanket talent release form for an unspecified period of time. Instead, keep the parents constantly updated and informed on how their child is contributing to to the development of instructional materials.

Designing for Instructional Effectiveness

Instructionally effective materials are materials which have been demonstrated to achieve instructional objectives with specific learners under clearly defined instructional conditions.

The basic steps in a strategy for achieving instructional effectiveness is as follows:

1. Assess the need for the material.

2. Identify the target audience.

3. Define specific instructional objectives which the material is to accomplish.

4. Identify entry level behaviors, that is, behaviors which are prerequisite for using the material.

5. Describe a procedure, or treatment, for accomplishing the objectives.

6. Determine procedures for evaluating learner performance in terms of the objectives.

For example, a classroom teacher may perceive the need for materials to teach hearing impaired children from ages six to ten to tell time. The target audience in this case would be the hearing impaired child and the general objective would be to develop in hearing impaired children an ability to tell time. Specific objectives might be to develop skills in discriminating between numerals, reading the minutes, and moving the hands in a clockwise direction. The materials developer would then identify prerequisite entry behaviors, such as the ability to identify numerals from one through twelve, and develop a treatment for achieving the objectives. One possible treatment would be to create a larger-than-life model of a clock, with removable numerals and hands. Overhead transparencies, worksheets, and games might also be appropriate. Finally, evaluation could be accomplished through criterion tests, such as worksheets, and through observed performances.

With this design strategy, there is a greater likelihood that materials will be used in a wider variety of situations and by a wider variety of teachers and learners than at present. For example, an inner-city teacher in New York City may learn about materials which have been developed by a teacher in a rural

area in California, but after using them, she may find that these materials for rural children are not effective for her specific inner-city learners. With information on the objectives, as well as the conditions for achieving those objectives, the New York teacher can modify the materials or the conditions of the classroom to take into account individual learner needs. In this way, materials can be made instructionally effective for different learners.

The concept of instructional effectiveness takes on greater importance when instructional materials are intended for wide distribution. If instructional materials are to be used by special education teachers in a wide variety of situations, they must not only be easy to understand, but they must be adaptable to a variety of situations and learners. The design strategy which has been described here is one way of providing that kind of precision and adaptability and is therefore suggested as a guideline for developers who intend to submit instructional materials to the NCEMMH.

Designing for Cost Effectiveness

Materials must not only be instructionally effective, but must be cost effective as well. Evidence of cost effectiveness is required in the product clearance process and will be an important criterion for materials submitted to the NCEMMH for review.

Planning procedures should, therefore, take into consideration alternative strategies for implementing specific instructional objectives. Each strategy should then be cost analyzed in terms of materials, equipment, personnel, and an important, but frequently overlooked factor -- student time. For example, two strategies for teaching math concepts might be a slide-tape presentation or a series of televised presentations. In costing out each of these strategies, it is important to consider the amount of time needed by the student to gain the stated competencies with the materials, as well as the time needed for development and production.

DEVELOPER'S CHECKLIST

Planning Instructional Materials

Several necessary, but often overlooked, considerations should be a part of the Planning phase.

——— Have you obtained the necessary forms and specifications for clearance of audiovisual products from the Office of Public Affairs, in the Office of Education?

——— Have you applied for permission to incorporate copyrighted materials into your work?

——— Have you obtained the releases from individuals who are to appear as talent in your production?

——— Have you designed your materials to be instructionally effective? More specifically, have you:

1. Assessed the need for the material?
2. Identified the target audience?
3. Defined instructional objectives?
4. Identified entry level behaviors?
5. Described a treatment for accomplishing the objectives?
6. Determined procedures for evaluating learner performance in terms of objectives?

——— Have you designed your materials to be cost effective?

PRODUCING INSTRUCTIONAL MATERIALS

Instructional materials which are produced with federal funds for wide dissemination should not only be planned for instructional effectiveness, but should also be produced in a way which will help to insure that this effectiveness is, in fact, achieved and is realized by the learner. For widely distributed materials, this requirement presents several problems. One problem is to be sure that original materials which are high in technical quality will maintain that quality after successive duplications. A second problem is that once there is some assurance that the intended duplicate will be similar to the original, the material needs to be designed so that the teacher or learner can understand and use it easily, A third problem is to anticipate any possible legal complications concerned with instructional materials development.

Technical Considerations

The technical aspects of instructional materials development can encompass a vast array of detailed

information, but the primary question in producing instructional materials for wide distribution is whether the original materials are suitably designed so that the copy will be as good, or nearly as good, as the original. In view of the many variables which can come into play during the production of materials, such as the quality of materials, availability of quality equipment, and the skill of production personnel, it is impossible to provide complete specifications which will guarantee the kind of technical quality that is required for materials designed for duplication. However, all materials which are submitted to the NCEMMH for development and production must conform to the following guidelines:

Print. Those who have already published a manuscript know that printers and publishers have guidelines for typeset materials. An example of these guidelines is included in Appendix D. For manuscripts or materials which are to be printed "as is," what you see is what you get. In either case, the original materials should be clear, legible, well designed, and -- above all -- accurate.

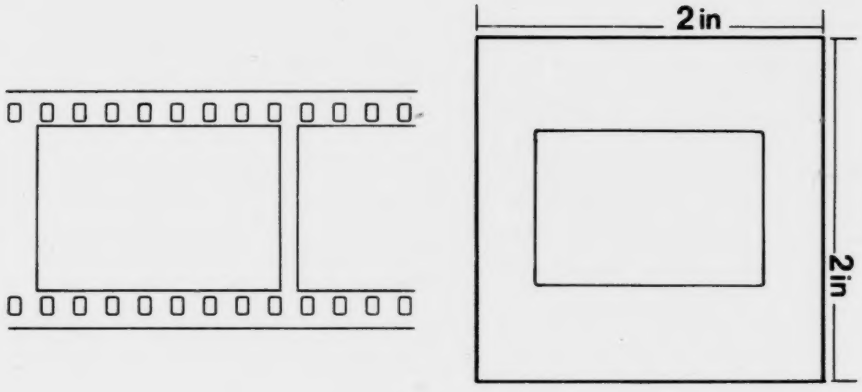
Slides and Filmstrips. Much can be done in the duplication process to compensate for poorly prepared slide and filmstrip originals, but to avoid unnecessary work and costs, care should be taken to produce original materials which are properly designed.

Color slides (sometimes referred to as color transparencies) come in several different formats, but all slides submitted to the NCEMMH should be 35mm, or <u>full frame</u> (See Figure 5).

Materials submitted to the NCEMMH for filmstrip production must include artwork or photographs which are <u>horizontal</u> rather than vertically oriented (See Figure 6).

For both slides and filmstrips, all important

Full Frame



Half Frame

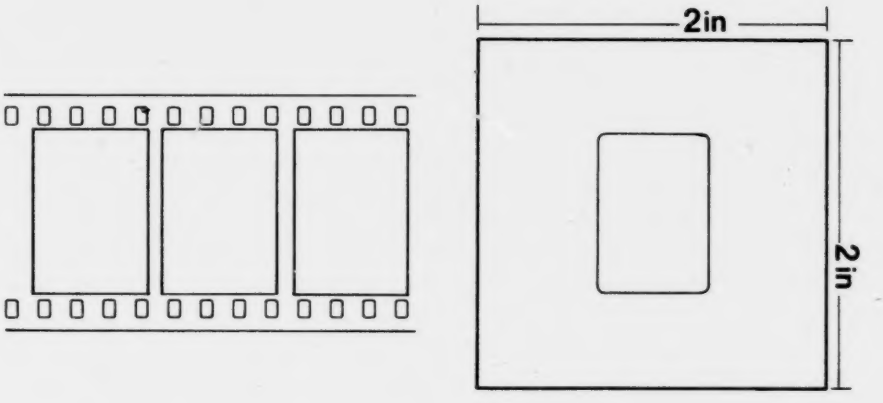
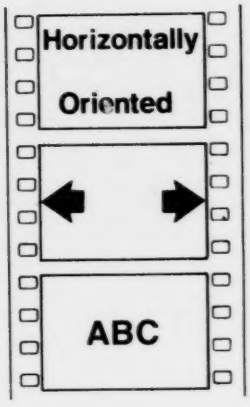


Figure 5. 35mm slide formats : full frame and half frame.



NOT

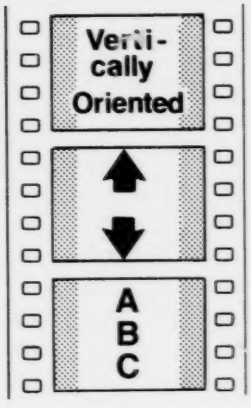


Figure 6. Filmstrip images are horizontally oriented.

details should be clearly visible in both highlight and shadow areas.

Overhead Transparencies. The best copies of overhead transparencies are usally made from the original artwork. Therefore, these materials, rather than the transparencies themselves, should be submitted to the NCEMMH.

Audiotapes. Audiotapes submitted to the NCEMMH should be recorded on full track at a minimum of 7½ i.p.s.

Motion Pictures. Guidelines for motion pictures are as follows:

1. To preserve the original film, edit on a workprint. For sound film, both a picture work print and a sound work print are needed.

2. While duplicates are possible from Super 8mm originals, the use of 16mm film for original footage is requested. For black-and-white film, use 16 reversal type film developed for low contrast; for 16mm color, use the appropriate commercial film.

3. Avoid combining different types of original film, such as Ektachrome Commercial with Type II Kodachrome.

4. With sound films, be sure the sound track tape is properly synchronized with the picture print.

Television. Generally, there are two levels of television production: broadcast and non-broadcast. For successive duplications, the 2" quadruplex broadcast standard is recommended. If facilities are unavailable for broadcast quality production, original materials, such as the script and accompanying visuals, should be retained in case the program needs to be done again.

Realia. Realia refers to objects or devices which are used for learning, such as globes, maps, play blocks, or mechanical models. What is needed here are the original drawings, blueprints, specifications, or patterns.

Preparing Materials for Effective Use

Materials which are designed to be instructionally effective should also be prepared and packaged so that they are easy to understand and use. For materials developed from specific instructional objectives, this would mean that there would be sections on instructional objectives, entry level behaviors (i.e., behaviors which are prerequisite for using the materials), the conditions which are necessary for implementing the materials, and information on previous field tests and evaluations. All of these sections should be clearly identified and labeled.

Preparing Materials for Delivery

Two basic questions with the delivery of most materials are: 1) How will it be reproduced? and 2) How will it be distributed?

Preliminary planning for materials reproduction and distribution can often avoid unnecessary expenses later on. For example, some idea about the number of copies that are needed and the agencies which are available to help in preparing these materials (such as the NCEMMH) can make a difference in budget allocations for materials development.

Specific questions to insure economic and efficient materials reproduction and distribution include:

1. Who will receive the materials?

2. Where are these people located?

3. What will be the form of the materials when they are sent out? (e.g., in sections or as one unit)?

4. Are there any agencies or organizations which might provide assistance?

Legal Considerations

Copyright. For materials which are developed under federal grants and contracts, it is first necessary to seek authorization from the Copyright Administrator to have the materials distributed under copyright. The prime contractor normally holds the copyright on the materials.

If authorization is granted to distribute the materials under copyright to protect them during the field testing phase, the copyright notice will normally be applied to the materials by the project or at the direction of the project personnel. If authorization is granted to facilitate commercial publication and marketing of the tested materials, the copyright notice will normally be applied by the publisher. For print, a copyright notice must contain these elements: 1) the work "Copyright" or the abbreviation "Copr." or the symbol ©; 2) the year of publication; and 3) the name of the copyright holder. For phonograph recordings, a notice consists of the symbol Ⓟ, the year of first publication of the sound recording, and the name of the copyright holder.

In addition, the following statement should appear, usually on the title page for the field test version: "Copyright for these materials is claimed only during the period of development, test, and evaluation, unless authorization is granted by the U.S. Office of Education to claim copyright also on the final materials. For information on the status of the copyright claim, contact either the copyright proprietor or the U.S. Office of Education." If copyright is being claimed on the commercially published materials, the following legend should appear adjacent to

the copyright notice:

> "Copyright is claimed until (insert date when materials will enter the public domain). Thereafter, all portions of this work covered by this copyright will be in the public domain."
>
> "This work was developed under a contract with (or grant from) the U.S. Office of Education, Department of Health, Education, and Welfare. However, the content does not necessarily reflect the position or policy of that Agency, and no official endorsement should be inferred."

As indicated in the statement, a distinction is made between materials which are being tested and evaluated (i.e., experimental materials) and materials in which development has been completed under the grant or contract (i.e., final materials). This distinction is important for royalty and other considerations (see section on "royalties").

Royalties. As defined in the U.S. Office of Education Project Officers Copyright Manual, a royalty is "a payment by one party for the use of a legal right of another." As opposed to a profit, a royalty is part of the cost of doing business and is payable regardless of whether or not there is a profit.

Normally, there is no royalty arrangement during the initial two-year experimental phase of materials development. Materials are normally distributed free or at a price sufficient to cover costs only. When royalties are involved in the distribution of "final" materials, the developer may elect to retain 50% of the royalty, with the remaining 50% returned to the U.S. Government. The royalty in this case is the net royalty, or as defined by U.S.O.E., that amount remaining after share or shares due to a co-sponsor or co-sponsors other than the U.S.

Government or the grantee or contractor, are deducted.

Patents. Inventions which are patentable are defined in the Patent Law as "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Since instructional materials include learning devices, such as play blocks or manipulative objects, it is therefore conceivable that a developer may need to determine ownership and invention rights. In the case of federally funded materials, these decisions are made by either the Assistant Secretary of Health or the Patent Counsel, at the Department of HEW, and grantees are required to promptly report research leading to the development of an invention. The exception is where the invention was made at an institution having a formal Institutional Patent Agreement with the Department of HEW. In that case, the institution has the first option to retain ownership.

Recognition to Funding Source. Proper recognition must always be given to the funding source for each and every production. This will usually be visual recognition at the close of each production. The proper manner and format for this recognition should be cleared with the funding agency and should always include the project number. You may also want to give credit to your funding agency at the beginning of the production.

Disclaimer. Inserted either at the beginning or end of each mediated production or instructional material should be the standard United States Department of Health, Education, and Welfare disclaimer clause. (See Figure 7 and 8). The proper format and wording of the disclaimer clause should be cleared with the funding agency.

The research reported herein was performed pursuant to Contract No. _____ with the Bureau of Education for the Handicapped, Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. The points of view or opinions stated do not, therefore, necessarily represent official Bureau position or policy.

Figure 7. Disclaimer A.

This paper is distributed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official Office of Education position or policy.

Figure 8. Disclaimer B.

DEVELOPER'S CHECKLIST

Producing Instructional Materials

To produce materials which are suitable for wide distribution and dissemination, it is necessary to be aware of specific technical and non-technical considerations.

——— Have you considered the technical requirements which may help to provide original materials which are suitable for duplication and dissemination?

——— Have your materials been prepared and packaged so that they are easy to understand and use?

——— Have you considered the problems involved with reproducing and distributing your materials?

——— Have you considered the final legal aspects of materials development, including

- copyright?
- royalties?
- patents?
- recognition to funding sources?
- disclaimers?

ASSESSING INSTRUCTIONAL MATERIALS

Instructional materials are often assessed or evaluated on the basis of expert judgments. While this form of assessment is frequently valuable, other more objective forms of evaluation are suggested and will be described for technical aspects and instructional aspects.

Assessing Technical Aspects

After the materials have been produced, the main technical questions are whether or not they are readable and legible. One test of readability is, of course, "eyeballing the visual," or looking at it. Other, more precise methods are the readability formulas, such as the Dale-Chall[2] readability formula which indicates the readability level (for example, grade 9 to grade 10) for printed materials. This may seem to be

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2 Edgar Dale and Jeanne S. Chall, "A Formula for Predicting Readability," Educational Research Bulletin, XXVII, (January 21 and February 17, 1948), 11-20, 37-54.

unnecessary, but all too often materials are written at a level which is far too complicated for the intended learner. If the problem is discovered after the materials have been developed and are being field tested, it is costly and difficult to remedy.

Another measure of instructional materials is visual legibility. Obviously, lines and forms need to be large enough to be seen clearly and colors should be easily discriminated. A standard reference on legibility and legibility rules is the Kodak pamphlet, Legibility Standards for Projected Material.

Similarly, audio recordings should have the fullest possible fidelity to the original sound. Auditory intelligibility can be assessed in terms of background noise level, general evenness of frequency range, and freedom from distortion. Again technical equipment is available to measure these qualities of sound and a "listen" test is also useful.

The best procedure, however, to insure good picture and sound quality is to make sure that high quality is maintained during the production of these materials.

Assessing Instructional Effectiveness

The second and most important kind of assessment is instructional effectiveness. Assessment of instructional effectiveness can be viewed as product and process evaluation. Product evaluation refers to the assessment of stated instructional outcomes. In other words, do the materials provide the learner with the necessary instructional experiences to achieve the stated objectives? Process evaluation is defined here as the assessment of factors which affect the achievement of objectives. For example, do the materials maintain the user's interest and motivation?

Using the methods and criteria for evaluation

included with the materials, developers obtain tentative evaluation data as they try out prototype materials on small samples of learners. With feedback from these learners, the materials can then be revised and re-evaluated. Revisions may involve changing the original objectives, the content, the level of difficulty, the suggested activities, the style and sequence of the presentation, the adequacy of instructions for using the materials, or even the intended learner -- materials designed for one learner may work well with a different population.

DEVELOPER'S CHECKLIST

Assessing Instructional Materials
(to be used periodically during development as well as after the materials are produced)

——— Have the materials been evaluated for technical quality?

- Is the text readable according to tested readability formulas?
- Is the material legible?
- Is the sound clear and intelligible?

——— Have the materials been evaluated for process effectiveness?

- Does the material sustain the user's interest?
- Is there sufficient reinforcement?

——— Have the materials been evaluated for product effectiveness?

- In a pilot test, have the objectives of the material been met?

APPENDIX A.

Selected Sources of Information

1. NICEM indexes. The National Information Center for Educational Media. R.R. Bowker Co., New York. Includes:

   - Index to 16mm Educational Films, 2 vol., 4th ed., $79.50
   - Index to 35mm Filmstrips, 2 vol., 4th ed., $58.50
   - Index to Educational Audio Tapes, 2nd ed., $36.50
   - Index to Educational Video Tapes, 2nd ed., $16.50
   - Index to Educational Records, 2nd ed., $34.50
   - Index to 8mm Motion Cartridges, 3rd ed., $34.50
   - Index to Educational Overhead Transparencies, 3rd ed., $49.50
   - Index to Educational Slide Sets, 1st ed., $19.50

2. Learning Directory 1970-71, 7 volumes, Westinghouse Learning Corporation, New York, New York, $90

3. John A. Moldstad, Sources of Information on Educational Media, U.S. Government Printing Office, Superintendent of Documents, Washington, D.C. 20402, 1963, as document OE-34024

4. National Audio Tape Catalog, Department of

Audiovisual Instruction (now Association for Educational Communications and Technology), AECT Publication Sales Section, National Education Association, 1201 16th Street, N.W., Washington, D.C. 20036, 1967, $3 (Order No. 071-02836)

5. CEC Information Center on Exceptional Children/ERIC Clearinghouse, 1411 South Jefferson Davis Highway, Suite 900, Arlington, Virginia 22202

APPENDIX B.

Information Agencies

National Center on Educational
Media and Materials for the
Handicapped
The Ohio State University
220 West Twelfth Avenue
Columbus, Ohio 43210

Instructional Materials Centers

Region Served	Director
National	Mr. Carl W. Lappin Instructional Materials Reference Center American Printing House for the Blind 1839 Frankfort Avenue Louisville, Ky. 40206
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	Dr. John Tringo New England Special Education Instructional Materials Center Boston University 704 Commonwealth Avenue Boston, Ma. 02215
Arizona, California, Nevada	Dr. Charles A. Watts Instructional Materials Center for Special Education U. of Southern California 1031 South Broadway Suite 623 Los Angeles, Ca. 90015

Region Served	Director
Colorado, Montana, New Mexico, Utah, Wyoming	Dr. Willard Jones Rocky Mountain Special Education Instructional Materials Center University of Northern Colorado Greeley, Co. 80631
National	Dr. Don Erickson CEC Information Center on Exceptional Children (CECERIC) The Council for Exceptional Children 1411 South Jefferson Davis Highway/Suite 900 Arlington, Va. 80631
Illinois	Miss Gloria Calovini Instructional Materials Center Office of the Superintendent of Public Instruction 1020 South Spring Street Springfield, Il. 62706
Iowa, Kansas, Missouri, Nebraska, North Dakota, South Dakota	Dr. Robert Ridgeway Special Education Instructional Materials Center University of Kansas 1115 Louisiana Lawrence, Ks. 66044
Kentucky, North Carolina, Tennessee, West Virginia	Dr. Robert Sterrett University of Kentucky Regional Special Education Instructional Materials Center 641 South Limestone Street Lexington, Ky. 40506

Region Served	Directors
Indiana, Michigan, Ohio	Mrs. Lou Alonso USOE/MSU Instructional Materials Center for Handicapped Children and Youth 213 Erickson Hall Michigan State University East Lansing, Mi. 48823
New York State and Central New York Region	Mr. Raphael E. Simches Special Education Instructional Material. Center New York State Education Department 55 Elk Street Albany, New York 12224
Alaska, Hawaii, Idaho, Oregon, Washington, Guam, Trust Territory of the Pacific Islands American Samoa	Dr. Wayne D. Lance Northwest Regional Special Education Instructional Materials Center University of Oregon Clinical Services Building Eugene, Oregon 97403
Arkansas, Oklahoma, Texas	Mr. Albert W. Fell Special Education Instructional Materials Center University of Texas 304 West Fifteenth Street Austin, Tx. 78701
Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia	Mr. Robert Carter Mid-Atlantic Region Special Education Instructional Materials Center George Washington University Washington, D.C. 20006

Region Served	Director
Minnesota, Wisconsin	Dr. LeRoy Aserlind Special Education Instructional Materials Center University of Wisconsin Waisman Center on Mental Retardation 2605 Marsh Lane Madison, Wi. 53706
Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina	Dr. Faye M. Brown Southern States Cooperative Learning Resources System Auburn University at Montgomery Montgomery, Al. 36104

Regional Media Centers

Dr. Robert E. Stepp, Director
Midwest Regional Media Center for the Deaf
University of Nebraska
Lincoln, Nebraska 68508

Dr. William D. Jackson, Director
Southern Regional Media Center for the Deaf
College of Education
University of Tennessee
Knoxville, Tennessee 39716

Dr. Raymond Wyman, Director
Northeast Regional Media Center for the Deaf
University of Massachusetts
Amherst, Massachusetts 01003

Dr. Hubert D. Summers, Director
Southwest Regional Media Center for the Deaf
New Mexico State University
Post Office Box 3AW
Las Cruces, New Mexico 88001

APPENDIX C.

References on Copyright

Alienikoff, E. N. Copyright Considerations in Educational Broadcasting. Stanford, California: ERIC, 1972.

National Center for Educational Communication. Office of Education Copyright Guidelines (F. R. Doc. 70-5701) Washington, D. C.: National Center for Educational Communication, 1970.

Pilpel, H. F. and Goldberg, M. D. A Copyright Guide. New York: R. R. Bowker, 1969.

United States Government Printing Office. U.S. Office of Education Copyright Program Information. Washington, D. C.: USGPO, 1972.

United States Government Printing Office. U.S. Office of Education Project Officer's Copyright Manual. Washington, D. C.: USGPO.

APPENDIX D.

Sample Print Guidelines*

The Manuscript's the Thing

EVERY AUTHOR wants the book he has labored over so long to be produced beautifully, in the shortest possible time and with the minimum number of alterations in proof. But he does not always realize how much he himself has to do with it by the way he prepares his manuscript. The basic rules to follow are these:

TYPING THE MANUSCRIPT

1. Type all copy, *double-spaced,* on plain white paper, preferably 8½ by 11 inches, on one side only. Handwritten manuscript should never be submitted, nor should mimeographed copy, which is often blurred and indistinct and is usually single-spaced. Printed pages from books or magazines may be used, but only if each page is pasted down on 8½ by 11 paper (which means that two copies of the publication will be needed for each copy of the manuscript).
2. Use a fresh typewriter ribbon and a bond paper of good quality. A manuscript passes through many hands before it is safely in type. Thin, highly glazed paper is hard to handle, will not take corrections in ink, and will not stand up to wear.
3. Make two carbon copies. Hold one carbon for reference and for protection against loss of the original. Send us the second carbon *in addition to the original copy of the manuscript.* Publication will then be speeded because the carbon can be sent to the printer for estimate or to a reader for review while the original is being edited.
4. Leave margins of at least 1¼ inches *on all four sides* to allow room for the editor's and printer's markings.

*Reproduced, with permission from Author's Guide (Columbus, Ohio: Charles A. Jones Publishing Company, 1955).

quality timber. A ranking of the states in lumber production is given in Table 10, and the comparative standing volume of their saw-timber, by species, is given in Table 11, p. 000. The leading species are compared in Table 12, p. 000.

TABLE 10 HERE

Timber growing and lumbering. Poor systems of logging, from colonial times to the twentieth century, and operators who showed scant regard for conservation and for future generations, have given the lumbering industry in this country a poor civic reputation. Fortunately, in the last few decades, responsible logging companies have looked beyond immediate profits. Government action and their own desire to insure their future have caused these companies to practice reasonable conservation methods. Where practicable, selective cutting[1] rather than clear-cutting[2] is customary; reforestation or replanting is not unusual; and maintenance of seed trees for regenerating the stand is a recognized necessity. But in spite of these measures, the annual volume of timber in demand exceeds annual increment from growth by some 30 per cent, and involves continuing drain upon the original endowment of our western virgin forests.

FIGURE 9 HERE

The lumberjack. A discussion of lumber and lumbering should not pass without mention of that hearty race of Americans, the lumberjacks, a distinctive product of natural selection in the rough environment of the wilderness. The lumberjack of the past was of necessity proved in the rough and tumble school of physical prowess. To have lasted even one year in the profession he must have been durable enough to have survived incredibly severe working con-

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[1] In selective cutting, only selected trees "ripe" for harvesting are removed.

[2] Clear-cutting involves logging of all trees of all sizes. It yields the greatest volume of timber for expense and effort applied.

A well-prepared page of manuscript copy, as it was submitted by the author.

5. Keep the width of the typed line and the number of lines to a page as nearly uniform as possible throughout the manuscript. This will make it easier for the printer to estimate quickly and accurately how many pages the manuscript will make in type.
6. Make corrections of a few words above the line, directly at the point of correction. Use a typewriter, or take care to write legibly in ink. Never use proofreading marks to indicate corrections in a manuscript, or make additions at the end of long streamers, or sidewise on the page, or on the back. The compositor should never have to stop to figure out a correction. Make all corrections on the carbon as well as on the original.
7. Make any correction or addition of more than a few words on a separate, full-sized sheet and insert it in the manuscript immediately following the page corrected. At the point of correction make a note to "Insert page – here"; mark the inserted page, "Insert on page – where indicated." Avoid making corrections on small slips of paper and pinning or clipping them to the manuscript; they slow up the compositor and are easily lost. If an occasional slip of paper *must* be attached to a page, use paste, not a pin or paper clip. Never paste parts of two pages together in such a way that they form an oversize sheet.
8. Type the various kinds of material as follows:

Text. Double-spaced, "full-measure" – that is, the full width of your standard type page. Take care to type headings and subheadings in a uniform style – for example, all primary headings in capitals centered on the page, all secondary headings in capitals and lower case on a separate line, flush left and underlined, and all third-value headings underlined and run in at the beginning of a paragraph. If there is any doubt about which grade of heading is which, once the manuscript is typed, mark each heading with a letter – A for primary heads, B for secondary heads, and so on – and provide the editor with a key. Try to avoid a heading at the very beginning of a chapter, in the interests of a good-looking chapter opening.

But don't – please – typemark the manuscript. The typographical

design of a book depends on a number of things, among them the length of the manuscript, its subject, its organization, the nature of the illustrations, the paper on which the book is to be printed. Each one of these reacts on all the others; a book designer is like a juggler with a dozen colored balls to keep going simultaneously.

If you wish, you may see sample pages before the manuscript is released to the printer. But until then – don't jostle the designer's arm. Leave the typemarking of the manuscript to him. Of course, where it is important that a special term or symbol be printed in italics or boldface, do mark that: underscore it with a straight line for italics, a wavy line for boldface, a straight line *and* a wavy line for boldface italics. So – italics in manuscript = *italics* in proof; boldface in manuscript = **boldface** in proof; and boldface italics in manuscript = ***boldface italics*** in proof.

Extract Material. Double-spaced, full-measure, just like the main text. To indicate that it is to be printed in a smaller size of type, draw a vertical line in the left margin, beginning exactly where the extract begins and ending where it ends. In addition to lists, examples, problems, and other material of subordinate importance, quotations of over four lines should be marked for smaller type. Omit outside quotation marks, and change inside quotes from single to double, but otherwise reproduce the quotation exactly as it appears in the original.*

Extract within extract. Double-spaced, full-measure. Draw a double vertical line in the left margin to indicate that it is to be set in a third value of type.

Tables. Single-spaced, on a separate page, unless your manuscript contains many tables, two or three to a page. In such a manuscript it would not be efficient to give each table a separate page. Type every table with enough space between columns and around headings to indicate the divisions clearly, but leave to the editor the question of whether vertical or horizontal rules are needed. Use symbols (*, †, ‡, §, ‖, #) or superior letters (^{a}, ^{b}, ^{c}, etc.) to mark footnotes to a table, and place these notes directly beneath the table so that they

* Unless you tell the reader what you have changed.

will not be confused with ordinary footnotes. In the text refer to the table by number. Don't say, for example, "see the table above," for when the printer makes up the type pages he may have to place the table below the reference. For numbering of tables, see page 50.

TABLE 7

AREA AND POPULATION OF PRINCIPAL WEST INDIAN ISLANDS

Islands	Area in Square Miles	Population	Capital	Population of Capital
Cuba	44,164	5,052,000	Habana	850,000
Dominican Republic	19,325	2,245,000	Ciudad Trujillo	116,000
Haiti	10,700	3,500,000	Port-au-Prince	142,000
Jamaica	4,411	1,238,000	Kingston	109,000
Puerto Rico*	3,421	2,205,000	San Juan	209,000
Trinidad	1,862	568,000	Port of Spain	95,000

*Puerto Rico and its islands of Mona, Vieques, and Culebra have a total area of 3,421 miles.

A well-planned and well-prepared table.

Footnotes. Type double-spaced, full-measure, chapter by chapter, separate from the manuscript, unless there are very few, in which case they may be typed at the bottom of the text page. (But, as noted above, type notes to a table directly beneath the table.) For numbering of footnotes, see page 50.

Bibliographies, appendixes. Type double-spaced, full measure. For bibliographies, use hanging indention—*i.e.*, indent the second and succeeding lines of an entry three spaces.

Index. Type double-spaced, with each entry and sub-entry on a separate line, one column to a page.

Number the manuscript consecutively in the upper righthand corner, beginning with the first page of text and continuing through the last page of the appendix, including all table pages. Number separately the front-matter pages, in small Roman numerals (i, ii, etc.), and the footnote pages in Arabic preceded by *fn* (*fn* 1, *fn* 2, etc.). Indicate clearly additions or deletions made after the numbering is completed. For example, if you add two pages following page 18, mark them 18a and 18b, and on page 18 make a notation, "Pages 18a and 18b follow." If you remove two pages following page 18, change the number of

page 18 to "18-20" to indicate the deletion. If the book is to be divided into parts, be sure that part-title pages are included in the manuscript proper and numbered along with it. Also be sure that the titles of the parts are indicated in the table of contents. Costly repaging may be necessary if you discover, after your book has been paged, that part titles have been omitted. On the last page of your manuscript, type, "# # #" or "The End."

NUMERATION

Use the following system for numbering chapters, footnotes, tables, illustrations, problems, and equations.

Chapter numbers. Use Roman numerals in manuscript. (The designer may change these to Arabic or spell them out, but if so, our copy editor will change any cross references in the text accordingly.)

Footnotes. Use superior numbers (numbers raised above the line of type) and number from one on throughout *each* chapter.* (But see page 96 for footnotes in technical manuscripts, and pages 105-106 for law book manuscripts.) For footnotes to tables, use symbols or superior letters (see page 48).

Tables. Use Arabic figures and number consecutively throughout the manuscript. For technical manuscripts, see pages 95-96).

Illustrations. Use Arabic figures and number consecutively throughout the manuscript. (For technical manuscripts, see pages 95-96.) It is usually best to include in a single sequence all types of illustration — photographs, line drawings, maps, graphs, and charts. But if it is necessary to give certain illustrations — for example, plates or charts — a separate sequence, use Roman numerals to distinguish them from the main sequence, and number them consecutively throughout the manuscript. Thus your manuscript may contain Figures 1 to 65 and Plates I to XIV.

In books for the general reader, figure numbers are usually omitted. But even here the illustrations should be given temporary numbers to enable the editor to identify them and to place them properly in the text. *Never paste, clip, staple or otherwise insert illustrations*

* Unless the footnotes are few and far between, as they are in this Guide, when asterisk and dagger are preferable.

in the manuscript. If you know where they are to go when you make the final typescript, indicate it right in the manuscript – for example, if Fig. 34 belongs on page 256, type "Fig. 34 here" on page 256, on a separate line, centered from left to right, with a few lines of space above and below it. If you don't decide until after the typing is completed, use a circled note in the margin to show where in the text each illustration should go.

Problems and equations. For problems in general books, use Arabic figures, and number from one on throughout each chapter. For problems in technical books, and for equations, see pages 95-96.

CHECKING THE MANUSCRIPT

Just before you send us the manuscript, check it against this list. It will save you time, countless letters to the editor, and probably money later on.

1. Read the final typescript carefully, as a last check on organization and to catch any typing errors or omissions.
2. Be sure that all the pages are there, in proper sequence, and that all inserts have been numbered and their position noted in the text.
3. Check the presence and numbering of all tables, illustrations, footnotes, and so on, with great care. A mistake here, or insertions and deletions after the manuscript is in type, may involve considerable resetting.
4. Check the correctness of all cross references. Numbered sequences like tables and illustrations should be referred to by number, but a cross reference to another page of the manuscript should read "see page 000." The ciphers will call attention to the fact that the correct book page number must be inserted. If a manuscript page number is used, the fact that it must be changed when the book is made up into pages may escape everyone's notice.
5. See that the table of contents reflects any changes or additions made after it was drawn up, and that it is included in the manuscript with the rest of the front matter and any end matter.
6. Check to make sure all necessary permissions for quoted matter or

for illustrations have been secured, and send the letters of permission to us with the manuscript.

SHIPPING THE MANUSCRIPT

Never sew or bind or staple the pages together, roll them, or put them in any kind of binder. Wrap the manuscript carefully. It is a good idea to put it in a stout cardboard box — you can conveniently use the 8½ by 11 box your typing paper came in — and reinforce that with corrugated paper and stout wrapping paper. Include your return address on the label. Send the *original* manuscript to us by express, registered mail insured, or as "educational materials" (the least expensive way), but note that the maximum insurance possible for "educational materials" is $200. Send one of your two carbon copies in a *separate* package as an added precaution against loss of both manuscripts in transit. The package should be addressed to the attention of the person with whom you negotiated when you contracted to write the book.

Keep the illustrations flat and separate from the manuscript — except for very large drawings, which may be rolled and shipped in a cardboard tube — and protect them with heavy cardboard. Send them by express, registered mail insured, or as "educational materials" insured.

MEETING THE DEADLINE

The contract for a book always contains a deadline — the date on which author and publisher agree that the manuscript shall be delivered in final form. Few authors realize how important to the success of their books meeting the deadline can be. It is set to enable a book to be published at the most favorable time for its acceptance. For some books that time may be a particular season; for textbooks it is the all-important period in the school year when adoptions for the coming year are made. No matter how good a book is, if it appears after the school boards, committees, and instructors have made their decisions, the greater part of its first year's sale is lost. And advance advertising is largely wasted if the book is not ready when promised. Please do your very best to meet the contract deadline.